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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/804,107	03/19/2004	Hiroyuki Aoyama	520.43633X00	7095
20457	7590	09/30/2005		
ANTONELLI, TERRY, STOUT & KRAUS, LLP 1300 NORTH SEVENTEENTH STREET SUITE 1800 ARLINGTON, VA 22209-3873			EXAMINER NGUYEN, HOANG V	
			ART UNIT 2821	PAPER NUMBER

DATE MAILED: 09/30/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)	
	10/804,107	AOYAMA ET AL.	
	Examiner	Art Unit	
	Hoang V. Nguyen	2821	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is FINAL.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3, 5-10, 12 and 13 is/are rejected.
- 7) ☒ Claim(s) 4 and 11 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |  |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)            |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>3/19/04 &amp; 10/14/04</u> | 6) <input type="checkbox"/> Other: ____  |

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-3 and 12 are rejected under 35 U.S.C. 102(b) as being anticipated by Yoshinomoto et al (US 6,486,853 B2).

Regarding claim 1, Yoshinomoto (Figures 2 and 11) discloses a surface mount chip antenna comprising a base 11 made of a dielectric; at least on terminal portion 15 provided on the mounted face of the base; a concave provided in the mounted face of the base except in the terminal portion, and at least one conductive wire 12 wound around the base.

Regarding claim 2, as applied to claim 1, Figure 2 of Yoshinimoto shows that the conductive wire 12 is a flat and rectangular conductive wire and spirally wound in the concave.

Regarding claim 3, as applied to claim 2, Yoshinomoto (col 3, lines 11-35) teaches the dimensions of the chip antenna to be 5mm or less in thickness, 30mm or less in length, and the depth of the concave to be not more than ½ of the thickness of the base, and that the flat and rectangular conductive wire is 2mm or less in width and 0.01 to 0.2 mm in thickness.

Regarding claim 12, as applied to claim 1, Figure 12 of Yoshinomoto shows that the chip antenna is being mounted in a communication equipment.

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 5-7 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ota et al (US 2003/0190896 A1) in view of Clark (US 6,058,315).

Regarding claim 5, Ota (Figures 1 and 2) discloses a chip antenna 21 arranged in the vicinity of metallic functional component 17. Ota does not explicitly mention that filter circuits being connected to the power source side terminal of the metallic functional component. Clark (Figure 6) discloses radiophone arrangement comprising filter circuits 600 connected to the power source side terminal of a metallic functional component 302. It would have been obvious to one of ordinary skill in the art at the time the invention was made to employ Ota's antenna device with filter circuits connected to the power source side terminal of a metallic functional component, as taught by Clark, doing so would enhance the audio quality of the Ota device.

Regarding claim 6, as applied to claim 5, Figure 6 of Clark shows that the metallic functional device include a loud speaker.

Regarding claim 7, as applied to claim 5, Ota teaches that the shortest distance between the chip antenna and the metallic functional component is not more than  $\frac{1}{4}$  of the wavelength of the electromagnetic wave radiated from that chip antenna or received by the antenna.

Regarding claim 13, as applied to claim 5, Figure 1 of Ota shows that the chip antenna 21 is mounted in a communication equipment 10.

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5. Claims 8-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ota et al in view of Clark, and further in view of Yoshinomoto et al.

Regarding claim 8, as applied to claim 5 above, Ota/Clark discloses a chip antenna arranged in a vicinity of a metallic functional component, and filter circuits connected to the power source side terminal of the metallic functional component. Ota/Clark fails to teach a concave provided in the mounted face of the base except in the terminal portion, and at least one conductive wire wound around the base. Yoshinomoto (Figures 2 and 11) discloses a surface mount chip antenna comprising a base 11 made of a dielectric; at least on terminal portion 15 provided on the mounted face of the base; a concave provided in the mounted face of the base except in the terminal portion, and at least one conductive wire 12 wound around the base. It would have obvious to one of ordinary skill in the art at the time of the invention to employ Ota/Clark's device with the base configuration, as taught by Yoshinomoto, doing so would reduce the Q value and broaden the bandwidth of the Ota/Clark antenna.

Regarding claim 9, as applied to claim 8, Figure 2 of Yoshinimoto shows that the conductive wire 12 is a flat and rectangular conductive wire and spirally wound in the concave.

Regarding claim 10, as applied to claim 9, Yoshinomoto (col 3, lines 11-35) teaches the dimensions of the chip antenna to be 5mm or less in thickness, 30mm or less in length, and the depth of the concave to be not more than  $\frac{1}{2}$  of the thickness of the base, and that the flat and rectangular conductive wire is 2mm or less in width and 0.01 to 0.2 mm in thickness.

***Allowable Subject Matter***

6. Claims 4 and 11 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

Neither Yoshinomoto, Ota nor Clark specifically teach, among other features, a plurality of the conductive wires and at least two of the terminal portions are provided to be responsive to a plurality of frequency bands.

***Conclusion***

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

- US 6,683,572 B2 discloses a chip antenna with a concave in the mounted face of the base except in the terminal portion.
- US 2002/0075186 A1 discloses a chip antenna with a concave in the mounted face of the base except in the terminal portion.
- US 6,580,397 B2 discloses an arrangement comprising filter circuits connected to a speaker of a mobile terminal.
- US 6,288,680 B1 discloses a chip antenna connected to filter circuits.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hoang V. Nguyen whose telephone number is (571) 272-1825.

The examiner can normally be reached on Mondays-Fridays from 9:00 a.m. to 5:00 p.m..

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hoang Nguyen can be reached on (571) 272-1825. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

9. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Hvn  
9/28/05



**HOANG V. NGUYEN  
PRIMARY EXAMINER**